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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/063,907	05/22/2002	Christine J. Phillips	124078-1 (GP4-0022)	4392
23413	7590	11/28/2006	EXAMINER	
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			FERRIS III, FRED O	
			ART UNIT	PAPER NUMBER
			2128	

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/063,907

Applicant(s)

PHILLIPS ET AL.

Examiner

Fred Ferris

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 28 July 2006 has been entered. Applicants have cancelled claims 2. Claims 1 and 3-25 are currently pending in this application and remain rejected by the examiner.

### Response to Arguments

2. Applicant's arguments filed 28 July 2006 have been fully considered.

Regarding applicant's response to 112(1) rejection: Applicants' amendment to claim 13 has overcome the previous 112 rejection relating to the multi-dimensional graphics component", however the claim remains rejected as depending from rejected claim 1. Applicant's request for reconsideration of 112 rejections relating to "permissible relationships" and, how attaching a graphical representation of a chemical substituent to a chemical backbone structure is accomplished, is not persuasive since the arguments now appear to offer an alternate interpretation of how the wizard actually determines permissible relationships how attaching a graphical representation of a chemical substituent to a chemical backbone structure is accomplished. In a nutshell, there appears to be no clear teaching of specifically HOW the "wizard" determines the permissible relationships or how attaching a graphical representation of a chemical

Art Unit: 2128

substituent to a chemical backbone structure is accomplished. (Note: only claim 4 actually contains the term "permissible relationships") The examiner concurs with applicants arguments that paragraph 0028 teaches a chemical data base storing palettes of chemical backbone structures, AND that the letter "R" in the backbone representation of Figure 10 appears to represent locations in the backbone where a desired substituent can be attached. However, these passages do not appear to provide a clear teaching of HOW permissible relationships are determined or how attaching a graphical representation of a chemical substituent to a chemical backbone structure is accomplished. Hence a skilled artisan would be offered at least two interpretations of the term "permissible locations" or, more specifically, how chemical substituent are attached to a chemical backbone structure based on applicant's arguments; 1) permissible locations (substituent attachments) are determined (computed) in advance and stored in the palette of chemical backbone structures (e.g. chemical database 110), or, 2) permissible locations are simply the locations that would have been known to one of ordinary skill in the art as locations for successful attachment of substituents. Looking into the prior art it appears that attaching a chemical substituent to a chemical backbone structure requires more than simply storing known attachment points for a particular structure. (See: Currano page 5, col. 2, para:3, page 6, col. 2, para:2, also pp. 3-7) (i.e. synthesis of a molecule involves finding a process by which a particular substituent can be attached to a particular site) Hence, the examiner submits that information on specifically what constitutes a "permissible location" and how attaching a graphical representation of a chemical substituent to a

Art Unit: 2128

*chemical backbone structure is accomplished, is missing from the specification. The examiner therefore maintains that the specification lacks enablement for the recited determination of "permissible locations for attaching chemical substituents" and "attaching a graphical representation of a chemical substituent to a chemical backbone structure.*

*Requirement recites the following supporting rationale:*

"While the analysis and conclusion of a lack of enablement are based on the factors discussed in MPEP § 2164.01(a) and the evidence as a whole, it is not necessary to discuss each factor in the written enablement rejection. The language should focus on those factors, reasons, and evidence that lead the examiner to conclude that the specification fails to teach how to make and use the claimed invention without undue experimentation, or that the scope of any enablement provided to one skilled in the art is not commensurate with the scope of protection sought by the claims. This can be done by making specific findings of fact, supported by the evidence, and then drawing conclusions based on these findings of fact. **For example, doubt may arise about enablement because information is missing about one or more essential parts or relationships between parts which one skilled in the art could not develop without undue experimentation.** In such a case, the examiner should specifically identify what information is missing and why one skilled in the art could not supply the information without undue experimentation. See MPEP § 2164.06(a). References should be supplied if possible to support a prima facie case of lack of enablement, but are not always required. In re Marzocchi, 439 F.2d 220, 224, 169 USPQ 367, 370 (CCPA 1971). However, specific technical reasons are always required."

*Regarding applicants' response to 103(a) rejections: Applicants 103 rejection arguments relating to the number of steps required by ChemSketch to create a chemical structure are not persuasive since there are no claimed limitations which would distinguish the number of steps required, or how "easily" components are attached in the language of the claims as currently presented. Applicants further argue that the claimed subject matter is rendered non-obvious over the prior art by virtue using a "pre-defined chemical backbone structure" where a user builds upon the structures using "pre-defined database driven subcomponents" that are easily attached to the*

*backbone to create a customized structure. In response the examiner first submits that there are no claimed limitations requiring that the chemical structure be "pre-defined". The claims only require that there be a graphical representation of the chemical structure. This feature is rendered obvious by ChemSketch as noted below. In any event, "pre-defined chemical structures" (e.g. known or existing) are clearly disclosed by ChemSketch in Chapters 7 and 12. The claimed "backbone structure" is well-known in the art and can be represented using any popular chemical drawing software packages such as ChemDraw or ChemSketch (See: Curano, Fig. 6, ChemSketch, Chapter 7, or ACD/3D Viewer, Chapters 3, 4, for example) Second, there are no claimed limitations specifically requiring the use of "pre-defined database driven subcomponents". The claims only require that a database store the graphical representations of the chemical structures. Both Bassett and ChemSketch include a database as noted below. In any event, applicants appear to be arguing features that are not specifically recited in the language of the claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). However, applicants are encouraged to amend the claims to include the limitations noted above in order to help clarify the claimed subject matter over the prior art.*

*Also, the preamble recitation of "utilizing interface techniques including at least ONE of" remains sufficiently broad to "read on" the prior art as previously noted. For the reasons set forth above and below the 103(a) rejections are maintained.*

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. *Claims 1 and 3-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.*

*Specifically, independent claims 1, 15, 18-23, and 25 recite limitations relating to a graphical representation of a chemical design structure including a chemical backbone structure, and a chemical substituent which includes attaching the graphical representations to a selected backbone structure based on a permissible location, and a multi-dimensional graphics component for viewing the structured properties. However, the specification appears to be silent on specifically how the invention creates the graphical representation of the chemical design structure, how the permissible locations for attaching chemical substituents are determined, or specifically how attaching chemical substituent to a chemical backbone structure is realized. (e.g. by what mechanism) Hence, a skilled artisan would not know how to make and/or use the claimed subject matter without undue experimentation. Dependent claims inherit the defects of the claims from which they depend.*

***Claim Interpretation***

4. *As noted above, the invention's actual implementation of the claimed features relating to the user interface, database, graphical representation of chemical structures, and multi-dimensional graphics component and have not been sufficiently described in the specification. Therefore, for purposes of art rejections, the examiner assumes that these features have been implemented using one the popular commercially available chemical structure drawing software packages such as ChenDraw, ChemWindow, ISIS/Draw, or ChemSketch.*

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).



**5. Claims 1-4, 6, 7, and 12-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication 2002/0129004 A1 issued to Bassett et al in view of "ADC/Chem Sketch", Version 5.0 Users Guide, Advanced Chemistry Development Inc., 2001. (hereafter: ChemSketch)**

*Independent claim 1, for example, merely requires the following elements:*

*chemical design query tool comprising:*

- user interface*
- database storing graphical representation of chemical design structure*
- interface guides user selecting chemical design structure and submitting structure to provider system.*

*These limitations, and the claimed elements of independent claim 15, 18-23, and 25 are rendered obvious by the combination of Bassett and ChemSketch using the reasoning set forth below.*

*Regarding independent claims 1, 15, 18-23, and 25: Bassett discloses an interactive Wizard based chemical design query tool inclusive of a user interface with database for guiding the user in chemical selection (para: 0009, 0010, 0014, Figs. 3C-3J), transmitting responses, tacking quires (para:0014), and providing a welcome screen and submitting a chemical selection to a provider (vendor) system (para: 0014,0074, 0093, Fig. 8).*

*Bassett does not explicitly disclose features relating to a graphical representation of a chemical design structure.*

*ChemSketch discloses a commercially available chemical structure drawing software package inclusive of features for designing a graphical representation of a chemical design structure (Chapters 2, 5, 6, 8-10). ChemSketch further teaches a*

*software tool allowing a user to create (specify) a graphical representation of custom chemical structures (Chapters 2, 5, 6, 8-10, backbone/substituent, etc.) inclusive of features for selecting chemical structures that are custom designed by a user, creating text windows for specifying custom chemical design parameters, and defining attachment points (receptors) for to the chemical design structure (Chapters 2, 5, 6, 8-10. The ChemSketch software tool provides chemical structure features for selecting organic and inorganic structures, dynamic HTML multi-dimensional structure properties viewing, and polymeric (silicones) materials (Chapters 2, 5, 6, 8-10).*

*It would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to modify the teachings of Bassett relating to a Wizard based chemical design query tool, with the teachings of ChemSketch relating to a chemical structure drawing software package, to realize the elements of the claimed invention. An obvious motivation exists since, as referenced in the prior art, the use of Wizards in an interactive web based environment is particularly advantageous to the chemical industry in assisting customers in selecting most desirable products without human intervention. (See: Bassett, para: 0003-0007, 0009-0014, especially 0014). Accordingly, a skilled artisan tasked with realizing a system and method for a chemical design query tool, and having access to the teachings of Bassett and ChemSketch, would have knowingly modified the teachings of Bassett with the teachings of ChemSketch (or visa versa) to realize the claimed elements of the present invention.*

Regarding dependent claims 3-4, 12, 19, and 24: *ChemSketch teaches a software tool allowing a user to create (specify) a graphical representation of custom*

Art Unit: 2128

*chemical structures (Chapters 2, 5, 6, 8-10, backbone/substituent, etc.) inclusive of features for selecting chemical structures that are custom designed by a user, creating text windows for specifying custom chemical design parameters, and defining attachment points (receptors) for to the chemical design structure (Chapters 2, 5, 6, 8-10). Bassett teaches an interactive Wizard (para: 0010) for guiding a user through a selection process as noted above.*

Regarding dependent claims 6, 7, 13, and 14: *The ChemSketch software tool provides chemical structure features for selecting organic and inorganic structures, dynamic HTML multi-dimensional structure properties viewing, and polymeric (silicones) materials (Chapters 2, 5, 6, 8-10).*

Regarding dependent claims 16, 17: *Bassett teaches providing a URL link to vendor network system (para:0014) and customer registration, contact, and tracking data (Figs. 3-5, 11-15)*

**6. Claims 5 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable in further view "Introducing Macromedia Flash 5", D. Cook, PC Support Advisor Update 150, pp. 9-12, May 2001.**

Regarding dependent claims 5, 8-11: *Davis teaches the commercially available Macromedia Flash Version 5 providing animated web based host features inclusive of features such as positions, poses, speech, sound, text bubbles, animated movements and facial expressions and, hence, would have knowingly been incorporated by a skilled artisan using the same reasoning previously set forth above.*

### **Conclusion**

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent Application Publication 2001/0047398 A1 issued to Rubenstein teaches chemical structure design tools and online interactive applications.

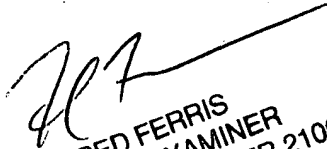
US Patent Application Publication 2003/0097305 A1 issued to Ogino et al teaches chemical structure design tools and online interactive applications.

Art Unit: 2128

*US Patent 6,654,736 issued to Ellis et al teaches chemical structure design tools and online interactive applications.*

*Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Ferris whose telephone number is 571-272-3778 and whose normal working hours are 8:30am to 5:00pm Monday to Friday. Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist whose telephone number is 571-272-3700. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached at 571-272-2279. The Official Fax Number is: (703) 872-9306*

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